AutoPlotVW - Version 09

Symbol and macro implementations for drafting the lighting plot in VectorWorks

Documentation Quality and my phone

While I have enjoyed creating the AutoPlot, and using it in my day to day work at UCLA, I find creating the documentation required to share this work to be tedious in the extreme. The necessity of creating that documentation does not go away. Should you find this documentation wanting please feel to contact me in any manner to help with your questions. My work phone is (310) 825-5823, my home phone is (310) 207-0392, and my cell phone is (310) 993-4172. Hopefully, if you are stuck in a hotel room at midnight, you are in New York, not Anchorage but, the appropriate hours to call are the hours appropriate to the urgency of your need. Any overseas users, if your desperate enough to spend the money, I'll answer the phone. I can always be reached by email at sjones@arts.ucla.edu. If I'm backpacking (usually between Aug 17 and Sept 20) or diving, I won't be collecting mail or answering the phone, but an "out of office" response will be sent back to you by my email program.

If you find AutoPlotVW useful please register and pay your shareware fee of $35. Register online or send a check to:
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Installing AutoPlotVW

1. Find the "AP_Plug-Ins" folder located in the downloaded folder. Place the entire "AP_Plug-Ins" folder **in the user Plug-ins folder**. That folder is in the following directory:

    a) For Macintosh Users :
       /Users/ username/Library/ Application/ VectorWorks/ 2009/ Plug-Ins

    b) For Windows Users :
       C:\Documents and Settings\ username\ Application\ Data\ Nemetschek\ VectorWorks\ 2009\ Plug-Ins

2. Open the folder namee "Workspaces"

3. Copy the file named "AutoPlot 09 " into the "Workspaces" folder located in the **in the user Workspaces folder**.

    a) For Macintosh Users :
       /Users/ username/Library/ Application/ VectorWorks/ 2009/ Plug Workspaces Ins

    b) For Windows Users :
       C:\Documents and Settings\ username\ Application\ Data\ Nemetschek\ VectorWorks\ 2009\ Workspaces

4. To start using AutoPlotVW choose one of the following:

5. Open the file labeled "AutoPlotVW Template". This will open a blank document with a all the symbol resources in the "Resource" palette.

    OR

6. Open any document you desire and then using the "Resource" palette, import the symbols you desire from the file named "APVW Symbols"

7. Once in the drawing space go to the "File" menu, open the "Workspaces" menu item, and select the AutoPlot 16 workspace.

8. If you desire, you may modify the "AutoPlot 09" workspace anyway you wish using the Workspace editor item in the "Tools" : "Workspace" menu item.

Lighting Symbols and the "Fixture Data 2" Record

LET'S TALK ABOUT THE LIGHTING SYMBOLS

In order for a lighting symbol to work with the AutoPlotVW macros, that symbol must be attached to a record named "Fixture Data 2" containing the fields listed below. These fields are designed to be used in the manner described below. Understand that it is possible to put almost any value in these fields if you want to, but you will become very confused if you do. Most of the fields listed below corespond to a field in Lightwright 4 (LW4), a U.S. entertainment industry standard, for computer generation of lighting paperwork. If you are using LW4, you should use the fields as they are intended to be used by LW4. Users of Lightwright 3 should read the descriptions of importing and exporting to that program to understand what the differences are. Users of other computer programs such as Excel and Filemaker Pro can use some of the fields for any thing they want.

At the end of each description, the Lightwright field that is assigned to the AutoPlotVW field is indicated by "LW - (lightwright field)"

Some of the fields in the "Fixture Data 2" record can be renamed, and used in any manner the user desires. Which fields can be renamed is indicated in the list below.

DO NOT change the order of the fields in the "Fixture Data 2" record. Since AutoPlotVW allows users to change the names of many of the fields in the record, the order of the fields is the only way the macros can tell which field to use for a given task. Why does AutoPlotVW put the fields in the order it does? The order is the one that I (Sam Jones) and Stan Pressner have found to be the most convenient for us. That convenience is based on putting fields that are usually filled out in the paperwork program, like channel, farther down in the order.

The "Fixture Data 2" Record Fields

Unit #:

This is the number of the unit at a given lighting position, usually electric pipes.
(LW - Unit#)

Position:

This is the lighting pipe, boom, or other designation of location

(LW - Position)

Short Purp:

This is a shorter version of Purpose that can be displayed on the plot. The Purpose field could be displayed if you wished, but the Purpose or Focus field in most hookups is too long to comfortably fit on the plot.
(LW -Text 1)

Color:

This is used to hold any indication of color filters or lack there of for the unit.
(LW - Color)

Color2:

This is used to hold any indication of a second color filter for the fixture. The "Color" and "Color2" fields are combined during export. LW4 &3 can now recognize and count the color correctly.
(LW - Color)

Type:

This holds the unit's description, e.g. 6X9, 6" Fresnel, etc.
(LW - Instrument Type)

Accessories:

This holds a list of dumb accessories attached to the fixtures. Dumb accessories are things that do not need a separate control channel listed in the paperwork, *e.g.* barn doors, top hats, and irises.
(LW - Accessories)

Wattage:

This holds the wattage of the unit.
(LW - Wattage)

Channel:

This is the logical control designation.
(LW - Channel)

Purpose:

This is the description of the lights function often used in the Hookup paperwork.
(LW - Purpose)

Circuit:

This is used to hold the numeric identification of the wire running

from the position to the dimmer.
(LW - Circuit #)

Circuit Name:

This is used to hold the non-numeric identification of the wire running from the position to the dimmer, usually the multicable ID, *e.g.* A3.
(LW - Circuit Name)

Dimmer:

This is used to hold the identification of the actual dimming unit. In theaters where there is a dimmer per circuit, the dimmer number and the circuit number are often the same. In theaters that do not have dimmer per circuit and have a manual patching system the dimmer number and channel number are often not the same. In some theaters, the one I'm in most often, all three ID's are different.
(LW -Dimmer)

Template:

This identifies the gobo, if any, in the unit.
(LW - Template)

Iris_Temp:

This is a field that is attached to a text field in each pattern focusable fixture to indicate the presence of an iris or a gobo. If you put a capital "O" in this field, it will represent an iris, generally located in the barrel of the symbol. If you put a capital "T" in this field, it will represent an gobo(template), generally located in the barrel of the symbol. This field will not be exported. When data is imported to the plot, the accessories field is scanned for the word "Iris" and the Template field is checked for any data, and the Iris_Temp field is filled in accordingly. Be sure to list all irises in your Accessories field, and be sure that all fixtures that will have gobos have a non-blank Template field. If you wish to use letters different from "O" and "T" you can specify the letters you wish in the AP_Preferences dialog.
(LW - Template)

"Miscl#" Fields

There are ten "Miscl#" fields they may be used to hold anything that you wish. They may be renamed anything you wish, **BUT** their order should not be changed. Since the name of the field will be changed by each user, AutoPlotVW will collect and deliver values to these fields according to the position they are in. Not changing their order and location is particularly important to the import and export routines. Renaming the "Miscl#" in

VectorWorks or renaming the Text and Number fields in Lightwright will not harm or change any values assigned to those fields nor will it change the Lightwright field to which it is assigned

Miscl#1: *(May be renamed)*

This can be used for anything you want.
(LW - Text 2)

Miscl#2: *(May be renamed)*

Used for anything you want.
 (LW - Text 3)

Miscl#3: *(May be renamed)*

Used for anything you want.
(LW - Text 4)

Miscl#4: *(May be renamed)*

Used for anything you want.
 (LW - Text 5)

Miscl#5: *(May be renamed)*

Used for anything you want.
(LW - Number 1)

Miscl#6: *(May be renamed)*

Used for anything you want.
(LW - Number 2)

Miscl#7: *(May be renamed)*

Used for anything you want.
(LW - Number 3)

Miscl#8: *(May be renamed)*

Used for anything you want.
(LW - Number 4)

Miscl#9: *(May be renamed)*

Used for anything you want.
(LW - Number 5)

Miscl#10: *(May be renamed)*

Used for anything you want.
(LW - Number 6)

The Other Fields

These fields are provided mainly to match up with Lightwright 4. You may use them as indicated. It is not yet clear to me that they should travel back and forth between the paperwork and the plot.

Mark:

Used for anything you want.
This field is actually a place holder for the "Mark" field in LW3. It is also used for some utility bookeeping by the AutoPlotVW macros. Do not worry about the use the AutoPlot Macros make of the "Mark" field, because the macros remember and restore any value you have put there.
(LW - Mark)

System: *(May be renamed)*

Used for anything you want, but if you use Lightwright 4 or 3, be sure to check how Lightwright uses this field
(LW - System)

Device Type:

This a field that describes the kind of thing to which the record is refering. In most cases this will be a lighting fixture so this field will contain the value "Light". If the record is attached to a color scroller, gobo rotator, or some other item that Lightwright considers an accessory or device, the value should be "Accessory" or "Device." Anything that has "Acc" or "Dev" somewhere in the Device Type field will be considered an accessory or device.
(LW - Device Type)

Needed for Focus: *(May be renamed)*

Used for anything you want, but if you use Lightwright 4, be sure to check how Lightwright uses this field
(LW - Needed for Focus)

Instrument Type Note: *(May be renamed)*

Used for anything you want, but if you use Lightwright 4, be sure to check how Lightwright uses this field
(LW - Needed for Focus)

Focus Note: *(May be renamed)*

Used for anything you want, but if you use Lightwright 4, be sure to check how Lightwright uses this field
(LW - Needed for Focus)

Focus Status: *(May be renamed)*

Used for anything you want, but if you use Lightwright 4, be sure to check how Lightwright uses this field
(LW - Needed for Focus)

PaperWork ID:

Lightwright will put its own ID number in this field, and will use its value to merge old and new values during the importing to the Lightwright file (use the "File" : "Automated" : "Merge Data from AutoPlotVW" menu command in Lightwright). <u>DO NOT change any values in this field.</u>
(LW - LightWright ID)

RENAMING THE "Miscl#" and other FIELDS

If you wish to change the name of a "Miscl#" field, you must use the Resource Palette(RP). This will rename the fields for that drawing only. Use the steps below to rename whichever "Miscl#" field you desire.

1. Open the Resource Palette.

2. Go to the drop down menu just below the title bar of the Resource Palette

3. Select the title of the current drawing. It will be the last in the list.

4. Right click or Control Click on the "Fixture Data 2" icon and select "Edit". This will open the database for editing.

5. When the "Edit Record Format" dialog appears, double click on the "Miscl#" field you desire to rename. This will open the field for editing.

6. When the "Edit Field" dialog appears, type in a new name and press the "OK" button

7. Continue with step 6, above, until you have finished renaming all the desired "Miscl#" fields.

8. Press the "OK" button in the "Edit Record Format" dialog.

Note: The above steps will rename the appropriate fields and maintain the text links if any, but they will not rename the class assigned to any linked text. If you wish to assign visibility status to text linked to a renamed field you must assign it to a class that contains the name you just gave the field, *e.g.* "1/4-New Field Name", and you may have to create that class name yourself

TEXT LABELS WITH 1/2 INCH AND 1/4 INCH SCALE

In MiniCAD, prior to the introduction of VectorWorks (VW), AutoPlot used one size of text for both 1/2 inch and 1/4 inch scale. This was a compromise that usually had readable 1/4 inch scale text print out too large in 1/2 inch scale, but allowed for readable text at both scales.

The symbols that I re-created in VW now have two sets of labels, one for each scale. The 1/2 inch text labels are actually smaller than the 1/4 inch text labels because the smaller text is readable at the larger scale. There are three macros that control the display of the text: "Show Half inch Text ", "Show Quarter inch Text ", "Show Both Text. Sizes" The first two commands are straight forward; they turn on the the designated scale and turn off the other scale. The third command is used when making symbols. It is important that both scales be visible when creating symbols because invisible classes will not be included in symbol definitions.

You should be aware that Ben Pearcy is the first person I am aware of who came up with this ingenious scheme.

TEXT LABELS IN METRIC DRAWINGS

All the classes that are preceded with "1/4" and "1/2" are just that, classes; they can be assigned to any objects. If you use 1:50 and 1:25 scales you could use the text fields assigned to "1/4" and "1/2" respectively, and if you want, you can change them to any font or size you want.

STRIPLIGHT SYMBOLS:

The symbols for Far Cycs, R40 strips, PAR 56 strips, and T3 strips are made up of a box and text for each circuit in the unit. That means that each unit is actually made up of a number of symbols that are grouped together, *e.g.* a 3 window far cyc is made up of 3 individual symbols grouped together. Each symbol is a box with text fields. The default wattage in each striplight symbol reflects the total wattage for the circuit in that unit, *e.g.* A six foot R40 strip light assumes 150w bulbs and 4 bulbs per circuit, so the wattage placed in the wattage field is 600w. Essentially, striplights are dealt with on a circuit by circuit basis, since that is the way they you will want them represented in the paperwork.

Four window Far Cycs are a special case.

The arrangement of the windows, two top, two bottom, will defeat the numbering algorithm of the macros. There is a symbol group in the symbol file

that uses a four different symbols containing the designations, "TR", "TL", "BL", "BR", in the symbol names (not in the "Type" field) which indicates the relative positions of the cells. This group not only numbers correctly, but it also has appropriate text placement for the four window graphic which is different than for all the other strip lights. Feel free to rearrange the text of each symbol, but be sure not to rename each symbol.

Grouping and Striplights and how to enter data for Striplights.

You do not have to ungroup your striplights for most of the macros to work. Numbering, aligning, and spacing macros will all work while the symbols are grouped. However, you will not be able to enter data in the Object Info (OI) palette for the individual circuits of a striplight or cyc unit while it is grouped, because the OI palette will display the attributes of the group. You can view and edit data in the "Fixture Data 2" record one of three ways. 1) You can ungroup the fixture and make each symbol accessible, or 2) you can select the "Edit Group" command under the "Organize" menu, or 3) you can use the "Enter Data for Selected" macro which will enter each group and display the records for each symbol without ungrouping the record.

BOOM SYMBOLS and 3D Models:

Usually lighting booms, lighting trees, and lighting ladders are shown on the plot with a schematic and not shown on the plan in their actual location. This is because if each fixture was drawn in its location, the fixtures would be drawn on top of one another. This schematic convention in all of its versions will defeat any attempt to use the boom symbols in 3D. If you wish to use the 3D capabilities, You should put your boom schematics on a separate layer and add 3D only symbols that are NOT attached to the "Fixture Data 2" record on the plan, either on the same layer as the other light plot (non boom) fixtures or on their very own layer.
3D modeling is most successfully achieved using layer links, and this method just described lends itself to using layer links.

"Circuit" and "Short Purp" labels:

In the symbols of the "APVW Symbols" file, a text field holding Circuit information is placed below the text field holding the Short Purp information. You can turn off any fields that you do not wish to display. Typically lighting designers do not bother to put circuit information on the plot, leaving that for the electricians to do during installation. However, many repertory plot installations often draw a plot that lists the circuits used to aid in restoration of the repertory plot.

Feel free to manipulate what text fields are attached to a symbol and which are displayed. If you have any questions feel free to call. Whether or not you choose

to attach and display text fields, it is important that you attach a "Fixture Data 2" data record to the default of your symbol.

"Iris_Temp" class and attached text label:
"The "Iris_Temp" field:

In the ERS and Source 4 symbols of the "APVW Symbols" file, a text field attached to the "Iris_Temp" has been put in the barrel of each fixture. Stan and I use it to display a capital "O" in the barrel of symbols that have the word "iris" somewhere in the "Type" field of the "Fixture Data 2" record, or we use it to display a "T" in the barrel of those fixtures that have any entry in their "Template" field. You do not have to pay any attention to this feature or include that text in your own symbols if you do not desire. All the other macros will work regardless.

You may wish to assign some other value to the "Iris_Temp" field of the "Fixture Data 2" record. If you do this you will need to make the " Iris_Temp " class invisible to keep that value from showing in the barrel of the symbols.

INSERTION POINTS

The insertion point of the symbols is what all the alignment and spacing routines in the macros use to place the symbols. The insertion point location is determined by the two crossing gray lines in the symbol editing window. VectorWorks uses the object center for its alignment routines and will produce different and usually unwanted results

The insertion point of the symbols may be quite different from the center of the symbol outline. If you wish to move the insertion point of the symbol(s), do the following for each symbol: One, enter the symbol editing window for that symbol. Two, select all. Three, move the everything so that the crossing guide lines intersect the symbol at the place you desire.

The insertion point issue is one reason why there are different symbols for the same kind of instrument that face different ways. Because the insertion point is how the unit is aligned and positioned on the pipe we have found it advantageous to create different facings that optimize (refine??) the position of the instrument .

MOVING LIGHTS

The symbol library includes symbols for Vari*Lites and Highend fixtures. The moving light symbols have been attached to a record as described above. It will be obvious that there are not enough fields to hold all the DMX channels required by moving lights. The extra DMX channels would be treated separately

in the paperwork, should not be counted in equipment totals, and so forth. John McKernon (LightWright 3) decided that all the extra DMX channels for moving lights will be handled as separate entities in the channel list and will be connected to their respective fixtures by having the same position description and unit #. In Lightwright 4 the extra DMX channels may be handled as attributes and/or assigned a decimal suffix. Stan Pressner and I are following this convention. This means that if you add 20 channels to the paperwork and then import the plot records a second time, you won't have to input the 20 channels all over again. In LW3 and 4 you will need to use the "Merge" command to preserve your extra DMX channels.

"AP Preferences" Record

A record called "AP Preferences" holds defaults for things like fixture height, beam spread, and spacing distance. Usually, dialog boxes will use the values in this record as default entries when appropriate. If a macro changes the value that is put in a dialog box, it will also change the value in the record. The "Beamspread WKS" macro uses the "AP Preferences" record more extensively. The record does not have to be open for its values to read by macros. It does need to be open if you want to change these values.

You can edit the "AP Preferences" record one of 2 ways use the „"AP_Preferences" macro from the AutoPlot Menu or click in the drawing so that nothing is selected. The Object Info palette will now display the word "Defaults" at the top, and if you highlight the "AP Preferences" record you will see and be able to edit the default values of that record.

"Fixture Count" Worksheet

This worksheet will count the number of each type of instrument that you have entered in the list and subtract that from any amounts that you have entered in the inventory column. Columns A and D are user entered data. Columns B and C contain the formula to find each kind of fixture and do the subtraction. You can use the "Make Fixture Count WKS" macro to make a table that only counts the symbols you are using, and not all 71 types of fixtures in the "APVW Symbols" file. Caution, everytime you use the "Make Fixture Count" macro you will lose any entries you make in your "Inventory" column.

Keep the "Fixture Count" worksheet closed

Because the program will try to access this worksheet every time you place, delete, or edit a fixture, it will slow down the performance of the program if the worksheets are open. Do not be afraid to open them whenever you wish to reference them, but if your program is acting real sluggish and showing you a

lot of watch cursors, check to see if these worksheets are open.

"Light List" Worksheet

The macro that created this worksheet has been eliminated. A list of fixtures placed in the drawing (ones attached to the "Fixture Data 2" record) is easily created with the "Create Report" command under the "Organize" menu. Using this command, provided by VectorWorks, allows for greater control of columns.

Using Groups

Devices: Color Changers, Gobo Rotators, etc

Accessories: Barndoors, Irises, Top Hats, etc

Lightwright calls color changers and other devices that are attached to a fixture but that require power or a DMX channel, and therefore a separate line in the paperwork, "Devices." These are different from dumb accessories such as barn doors, top hats, and irises which require no power and no DMX assignment. Lightwright calls these dumb items, "Accessories," and Lightwright 4 will list them in the "Accessories" field. Devices are usually indicated on the plot, and if they are, they need to be attached to the "Fixture Data 2" record and their "Position" field needs to be entered by the user. Accessories may or may not be indicated for each fixture that has them, but if they are indicated, it is important that they NOT be attached to the "Fixture Data 2" record.

Lightwright expects "Devices" to have the same fixture number as the fixture that they are attached to. A light that has a gobo rotator and a color changer attached to it will have three entries in Lightwright all with the same number and position; the only difference will be in the "instrument type field" and the "device type" field, and in the case of Lightwright 4 they may have a decimal suffix. Normally, AutoPlotVW will number each symbol attached to the "Fixture Data 2" database sequentially, which would be incorrect for the devices. For your devices to be assigned the correct fixture number you must do two things: 1) You must put "Device " in the "Device Type" field and 2) you must select the lighting fixture and all the accessory symbols that should belong to that unit and Group them using the "Organize":"Group" menu command. Once you have done this the numbering command will work the way it should. The numbering command only looks one level deep, so you cannot have groups of groups. Once any symbol is inside a group the Object Info(OI) palette will **not** display the data attached to it. This is because when you select a group, the OI palette is displaying data assigned to the group as a whole not it's components. Since nothing is assigned to the group as a whole, nothing is displayed. If you wish to see or edit data for fixtures or devices that have been grouped, use the

"AP_Enter Data.." commands. This macro will scroll through the group allowing you to see and edit data. The "Enter Position for Selec" command will also work correctly, assigning the entered position to all the selected items and items within selected groups. If you need to use the OI palette for any reason you can always use the "Organize/Edit Group" menu command, but the "AP_Enter Data for Selected" commands should be all you need.

If you should inadvertantly not group a device with a fixture, that device will be assigned the number "0" (if it has "Device" in the "Device Type" field, but the fixture will be numbered correctly.

Strip and Cyc Lights

Each circuit in a strip or cyc fixture is given its own symbol so that the circuits will be entered individually in the paperwork. Dealing with collections of 3 and 4 symbols can be tedious. You may group all the symbols that belong to a striplight or cyc fixture and all the "…strip…" numbering commands should work correctly.

Moving Text in Individual Fixtures.

When using symbols, the text that is displayed is locked in place. When the text in a symbol is in an incovenient place and obscures other parts of the drawing, it is desireable to move the text for that symbol instance only. While that fixture is represented by a symbol, rearranging the text is not possible. However, it is possible to change the individual symbol instance from a symbol to a group and move the text around by editing that individual group. Follow the steps below; they will become second nature after you have used them a few times.

STEP BY STEP:

1. Before doing anything, select the menu command "Preferences/VectorWorks Preferences…"

2. When the VectorWorks Preferences dialog comes up, select the "Display" tab

3. Be sure the bottom button, "Show Other Objects While In Groups," is checked.

4. Close the the VectorWorks Preferences dialog
You should leave this preference selected on all the machines/platforms that you use AutoPlotVW on.

5. Select the fixture whose text you wish to move.

6. <u>In VectorWorks version 10</u>: Select the menu command "Organize/Shallow Symbol to Group"
or
6. <u>In VectorWorks version 11:</u> Select the menu command "Organize/Convert to Group"
> Be sure that the "Don't convert sub-objects to groups" is selected and press the "OK" button

7. The selected fixture is now represented by a group and not a symbol.

8. To move the text select the menu command "Organize/Edit Group." You will notice a button appear in the upper left hand corner of the window that says "Exit Group"

9. You can now move any text in the group to where you wish. When you are done, press the "Exit Group" button

IMPORTANT THINGS TO KNOW:

1. When you change a symbol to a group, the displayed text is no longer connected to the data for that fixture. That is because text can only be linked to the data in symbols. <u>This means that when you change a value in the Object Info Palette the text that represents that value will not change. In order to have the text in groups reflect the new values select and run the "</u> ***AP_Fix Text In Groups*** "

2. All the other macros keep track of groups and data, so that when a macro changes any data values in a group it automatically adjusts the text of the fixture to reflect the new values. This means that the numbering macros and the import/export macros will work with groups <u>without </u>you having to run the Fix Text In Groups macro.

3. Alignment, Spacing, and Distribution macros require that there be a symbol with an insertion point. Only symbols have insertion points. Groups have graphic centers. When you use the "Shallow Symbol to Group" command, any symbols inside the container symbol are preserved and the macros can use that inside symbol to align, space, and distribute. If the original container symbol has no internal symbol, those macros will use the graphic center which you will then have to adjust. The presence or lack of internal symbols has no effect on the updating of text and data, so you need not worry about data loss. If you make your own symbols, you should make a symbol of the graphic and then add text fields making a symbol of the combination.

4. Being able to adjust and change text in groups is based on that text being assigned to a class appropriate to the information to be displayed. For example, any text that is to display Channel information must be assigned to either the "1/2 Channel" class or the "1/4 Channel" class or any class that has

"Channel" as part of its name. Any text that is to display Color information must be assigned to either the "1/2 Color" class or the "1/4 Color" class or any class that has "Color" as part of its name.

BEAM MACROS.

AutoPlotVW provides a set of macros to display the beam spreads of fixtures. While these still work and are useful, they are rudimentary and difficult to use compared with a set of beam macros distributed by Joshua Bengiat. HYPERLINK "http://home.earthlink.net/~benghiat/"
  http://home.earthlink.net/~benghiat/   His macros are called "Beam Draw", and they can work with both AutoPlotVW and SpotLight, and they are fabulous. He even has a Beam tool that shows the shape of a PAR can and lets you rotate it. I cannot recommend them enough. I don't use the beam tools described here anymore.

AUTOPLOTVW MACRO DESCRIPTIONS

MACRO NAMES *(Listed in alphabetical order)*

All the Menu commands in AutoPlotVW begin with "AP_". This naming convention has no functional purpose while you are making your plot. The convention was adopted so that all the AutoPlotVW plug-ins would be listed together in the plug-ins folder that resides with VectorWorks. The macros **are listed below without their "AP_" prefix**. Additionally, plug-in names are limited to 27 characters, or 24 characters if you don't count the "~" prefix.

"Align TB on Insert Pt

"Align LR on Insert Pt"

(menu / AutoPlot / Align Fixtures /)

The alignment macros align the symbols on their insertion points not by their geometric centers or boundaries. The macros also ask you to click the mouse in order to specify the point to align to instead of using a handle or center of one of the objects as a guide. Holding down a key during the mouse click will abort the macro and move nothing.

"Align Whole Position (H)"

"Align Whole Position (V)"

(menu / AutoPlot / Align Fixtures /)

These macros simplifiy the process of aligning a position. Select one fixture and invoke the macro. The macro will then ask you to click on a point on which to align. The macro will then align all the fixtures that share the position field value of the fixture that was selected.

"Apply Cyc Color Class"

(menu / AutoPlot / Text Visibility /)

Sometimes it is desireable to put a note on the plot that indicates the color placed in the muticircuit units and not display the color at each individual fixtyure. This macro will look for fixtures that have one of the following words in their "Type" field; case does not matter:
CYC
STRIP
GROUNDROW
In each of the found symbols the word "CYC" will be appended to the Class of the text fields attached to color. This means text in the "1/4-Color" class will be assigned the "1/4-Color Cyc" class. This reassignment will then allow you to use the "**AP_Show-Hide Cyc Color**" macros to display or hide the value of the color assigned to cyc and strip units.

"Apply To All"

(menu / AutoPlot / Enter Data /)

This macro presents a dialog box of fields in the "Fixture Data 2" record. The values entered in this dialog will be assigned to all the selected fixtures. Dialog fields that are empty, contain a " ", or contain "—" will be ignored and the values in those fields in each of the selected symbols will not be changed. To enter a space in a field put a double space in the field you wish to change.

"Assign Channels L to R"
"Assign Channels R to L"
"Assign Channels T to B"
"Assign Channels B to T"

(menu / AutoPlot / Assign Channels and Dimmers /)

These macros will assign channel values to all the selected fixtures incrementing by a queried amount from fixture to fixture. The assignment will

happen in the screen direction indicated.

"Assign Dimmers L to R"
"Assign Dimmers R to L"
"Assign Dimmers T to B"
"Assign Dimmers B to T"

(menu / AutoPlot / Assign Channels and Dimmers /)

These macros will assign channel values to all the selected fixtures incrementing by a queried amount from fixture to fixture. The assignment will happen in the screen direction indicated. These commands know about and pay attention to the 512 barrier in DMX universes, so if your moving light attributes would cross the 512 border, the macro will start that unit in a new universe.

"Assign Position Example"

(menu / AutoPlot / Enter Data /)

This macro will assign the position value of the next fixture you mouse click on to all the selected symbols. When adding a bunch of specials to a pipe, I just plop them down; then I make sure they're all selected, activate the macro and just click on a light that was already on that pipe and its position value will be added to the specials I just placed

See the section titled "Beam Macros" in the pages above for a source of better beam tools.

"Beam Section"

(menu / AutoPlot / Beams /)

Before using this macro, draw a line from the fixture to the center beam focus point. Leaving this line selected activate this macro and fill in the beam spread in degrees; the macro will then draw two lines with arrow ends, one on each side of the selected focus line which represents the beam's field angle.

"Beam Spread"

(menu / AutoPlot / Beams /)

This macro requires that you select a light prior to calling the macro. The macro will then ask for the beam spread and height of the fixture. After that, you are required to click on where the center of he field falls on the ground plan. The macro will then draw the floor plan of the beam.

"Beam Spread Metric"

(menu / AutoPlot / Beams /)

This macro does just what the "Beam Spread" macro does, except that it should be used in drawings that use metric units. When you enter the height of the fixture, use the units of the drawing. If the drawing units are meters, enter the height in meters. If the drawing units are centimeters, enter the height in centimeters, etc.

"Beam Spread OIP"

(menu / AutoPlot / Beams /)

This macro was first devised by Joshua Benghiat. I have played around with some interface elements, but the muscle of this macro is essentially his.

This macro does just what the "Beam Spread" macro does, but it allows you to have the **field spread** and **beam spread** shown, and, if you wish you can have the macro draw the **field cone**. The macro uses the values in the "AP Preferences" record to determine what to display. To see these values, make sure nothing is selected, open the Object Info Palette (OIP) and click once on the "AP Preferences" record, or you can run the "AP_Preferences" command. The beam cone will be the stated fixture height. If your fixtures are not given a z value, the cone will be correct, but you won't find the fixture at the top of the cone. Of course, if you haven't given z values to your plot you probably won't be doing sections anyway.

"Change Accessory or Device"

(menu / AutoPlot /Place, Delete, Change ACCESSORIES)

Occaisionally, you will want to change all the top hats to barn doors on all or certain instruments. This macro will ask you what accessory or device symbol you wish to replace and which accessory or device symbol you wish to replace it with. The dialog will have 2 buttons. One button says "Change All Currently Selected" and will be the default if there are selected units. If you choose to use this button, all the currently selected units will have there symbols switched and, if appropriate, there "Accessory" fields changed. The second button says "Use Mouse to Select the units to change" and will be the default if no fixtures are currently selected. If you choose to use this button, the switch will be made on each unit you click on until you click on nothing. The "Accessory" field of each clicked on unit will be appropriately adjusted.

"Change IrisTemp Letters"

(menu / AutoPlot / Editing Aids /)

Sometimes users would like to use a different font and letter to indicate templates and Iris units, usually using Zapf Dingbats or other symbol fonts. This macro allows you to change iris and template indicators globally.

"Change Position Name"

(menu / AutoPlot / Editing Aids /)

This macro allows you to change the name of a position already assigned to symbols and have that change applied to all the symbols that have the position name you wish to change.

"Change Symbol Fonts"

(menu / AutoPlot / Editing Aids /)

This macro will let you specify the font, style, size, and color of text attacbed to record fields in any given symbol or all symbols. It will make global changes if desired. It is required that the text fields be assigned to a class that contains the name of the field it is linked to. For example if you wish to change the font of a text field linked to the "Channel" field of the "Fixture Data 2" record, text field must have the class "1/4-Channel" or "1/2-Channel" or just Channel. WARNING: this macro will not adjust the spacing of the text fields, so not all fonts, font sizes, and font styles will work without obscuring each other.

If you "Undo" this macro, you will not see everything return to the way it was until you scroll to another part of the drawing. The "Undo" command does not initiate a redraw for text changes made by vectorscript.

"Change Symbol Line Wt"

(menu / AutoPlot / Editing Aids /)

This macro will change the line weight of graphic objects in all or some of your fixture symbols, those that are attached to the "Fixture Data 2" record. You will be asked to specify a line weight thay you wish to change to. You will then be asked if you want to change all the line weights in the symbols to the specified line weight. If you answer "Yes," every graphic object in the symbol will be changed to the specified line weight. If you answer "No," you will then be asked to input the line weight you wish to change to the earlier specified line weight. The macro will only change line weights that meet the second input line weight. For exampl, you can change all the lines to a 10 point line weight, or you can change only those objects that are line weight 7 to line weight 10. For this

macro to work it must be able to change the symbols that are inside symbols. For example, inside every Source 4 symbol there is a "gSource 4" basic graphic symbol that is not attached to the "Fixture Data 2" record. THIS MACRO WILL CHANGE EVERY SYMBOL THAT BEGINS WITH A LOWER CASE "g", so be careful that you do not have any other symbols in your drawing.that begin with a lower case "g" when you use this macrol

"Change Symbol Type Field"

(menu / AutoPlot / Editing Aids /)

This macro will globally change what is entered in the "Type" Field and change the name of the symbol for all the fixtures of the same type as the selected fixtures. The macro will ask what you want in the "Type" field, and it will then ask what you want the name of the symbol to be; it will then make the changes. This macro is very useful when you have a plot filled with Source 4s and you are going into a facility that has all Shakespear units. It is important to use this macro to change both the type field and the symbol name so that the "Import" macros don't think you have changed fixture types.

"Change Text Link"

(menu / AutoPlot / Editing Aids /)

This macro will change the field that text is linked to. If you have text linked to the "Circuit" field and you would rather have it linked to the "Dimmer" Field, use this macro. This macro <u>requires</u> that the text fields you wish to reassign already be assigned to classes that have the field name within them, e.g. "1/4 Dimmer", "1/2 Dimmer", or just "Dimmer". If you change one text field to show the value of a data field that is already assigned to another text field, the two fields will swap the data fields they are assigned to. (Follow that??) For example, if you want the the two text fields that display "Short Purp" and "Circuit" to swap positions so that "Circuit" is just under the "Channel", use this macro to change the "Circuit" field to display the "Short Purp" field, and the two fields will swap. If you want the "Circuit" field to display the "Miscl#1" field just use this macro to assign "Miscl#1" to the field that is currently displaying the "Circuit", and, voila, only the one field is changed. This macro will also change the class that the text is assigned to.

This macro will only change text that is already linked to a field in the "Fixture Data 2" record. If you wish to link text that is not already linked use the macro "Link Other Text Fields" described below.

If you "Undo" this macro, you will not see everything return to the way it was until you scroll to another part of the drawing. The "Undo" command does not initiate a redraw for text changes.

"Change Twofer Dots"

(menu / AutoPlot / Twofering /)

This macro will change the size of twofer dots. Twofer dots are the dots on twofer lines indicating connected fixtures. Some people like them larger; some people like them smaller. The macro will redraw already placed twofer dots in the drawing's default line weight. The new size of the dots will remain the default size for that drawing

"Check All Type Fields"

(menu / AutoPlot / Others /)

This macro checks each symbol instance to be sure that the "Type" field has an entry, and that the entry is contained within the symbol name, e.g. {6" Fres} in the "Type" field is contained in the symbol name {6" Fresnel >}. It is very easy to forget to fill in the defaults for new symbols that you create. This macro helps check for that.

"Circle Purpose"

(menu / AutoPlot / Select Fixtures /)

If you want to find all the fixtures that have a particular entry in the "Purpose" field, this macro will ask you what you want to look for and put a red box around all the fixtures that match your criteria. In addition, you can specify "contains" instead of "equals", and that will to find all the fixtures that have "Backlight" in the "Purpose" field including both fields that say "Cool Backlight" and ones that say "Warm Backlight." . You can eliminate the red boxes by issuing an "Undo" command or using the "AP_Delete Change Circles" macro.

"Circle Selected"

(menu / AutoPlot / Select Fixtures /)

Sometimes it is difficult to find all the objects that are selected. This macro will put a red rectangle with a heavy line weight around every selected fixture. You can eliminate the red boxes by issuing an "Undo" command or using the "AP_Delete Change Circles" macro.

"Circuit to Dimmer"

(menu / AutoPlot / Enter Data /)

Sometimes you will want to put all the values you have in the "Circuit" field into the "Dimmer" field. This macro does that.

"Clear Select Bogus Data"

(menu / AutoPlot / Enter Data /)

This macro clears data from selected fixtures, but does NOT clear the "Type" and "Wattage" fields. (See "Fill Selec w Bogus Data.")

"Clear Sym Def Data"

(menu / AutoPlot / Symbol Editing Aids /)

This macro clears the text placed in the Fixture Data 2 fields by the "Fill Sym Def Data" command Unfortunately, Vectorworks 11 no longer will allow vectorscript commands to force updates of text in symbol edit window, so you will need to exit (the "Exit Symbol" button or "command-[" key stroke) and then reenter the symbol edit window to see the text eliminated. See the "Fill Sym Def Data" macro description.

"Collect Dimensions"

(menu / AutoPlot / Dimensioning /)

This macro collects all the dimensions in the drawing and places them in a separate layer.

"Collect Twofers"

(menu / AutoPlot / Twofering/)

This macro collects all the twofers in the drawing and places them in a separate layer called "Twofers".

"Convert Line Set Units"

(menu / AutoPlot / Line Sets from a worksheet /)

There may be a rare occasion that you wish to change the units that the line set distances are measured in, because you have changed the units used in the drawing. When you change the drawing units from imperial to metric, everything will change except for the entries in your worksheets and records. You can go back and edit the worksheet entries converting the measurements by hand, or you can use this macro. This macro will change the units in the line set worksheets AND in the "LineSet Prefs" record to the current drawing units. You will have to tell the macro what the units in the worksheet start as; the macro will then convert them to drawing units.

"Convert SL to AutoPlotVW"

(menu / AutoPlot / Conversions /)

This macro is used to convert SpotLight PIOs (smart symbols) to the AutoPlot symbols of your choice. There are many differences between SpotLight symbols and AutoPlot symbols, but it is the issue of rotation that makes this process tricky. All of the SpotLight symbols of a given fixture type are the same; they differ only in their rotation angle and attached label. In AutoPlotVW each lighting fixture orientation is represented by a different symbol. There is no way to know, automatically, which AutoPlotVW symbol should be assigned to which SpotLight symbol. To convert an entire SpotLight document will require that you select a kind of SpotLight symbol to replace and the AutoPlotVW symbol to replace it with. Here are the steps to use this macro.

Starting with a ***COPY*** of a SpotLight Document.

1. Be sure you are in an AutoPlotVW workplace that contains this macro

2. Import all the AutoPlotVW symbols that you wish to use in this document. You can add others later if you wish, but import all you know about ahead of time; it's easier that way.

3. Select a SpotLight fixture on the drawing that you wish to replace.

3. Using the Resource palette or the Object Browser, make active the AutoPlotVW symbol.you wish to use as a replacement. Run the macro.

4. You will be asked if you want to convert all the symbols with the same fixture type in the "Inst Type" field and have the same rotation as the selected SpotLight fixture
    If you click on the "Yes" button all the SpotLight fixtures in the document that share the same type description and rotation will be replaced by the active AutoPlotVW symbol. If you click on the "No" button only the selected fixtures will be replaced.

5. You will be presented with a dialog that tells you how the values in the SpotLight fields will be assigned to the values in the AutoPlotVW fields. Drop down menus will allow you to assign any SpotLight fields you wish to the AutoPlotVW "Miscl#" fields. Mouse click on the "Convert to AutoPlotVW" button.

6. The macro will make the conversion and leave all the converted symbols selected.

"Convert to Quarter Scale"

(menu / AutoPlot / Conversions /)

This macro sets the scale of every layer to 1/4 inch (1:48).

"Create Pipe Symbol"

(menu / AutoPlot / Others Commands /)

This creates a hybrid 2D/3D symbol from a line drawn on the page, and leaves an instance of that symbol where the line was. This macro facilitates making pipes and battens that will show up in 3D and 2D at a specified height.

"Delete Barndoors"

(menu / AutoPlot / Place, Delete, Change ACCESSORIES /)

This macros deletes barndoors from selected groups, removes them from the "Accessories" field of the accompanying fixture and ungroups the fixture.

"Delete Change Circles" and "Delete Xs"

(menu / AutoPlot / Exporting and Importing Fixture Data /)

These macros delete the circles and Xs that are created by the "Import Data to Plot" macro to flag changes made by changes in the paperwork. (See Expoting and Importing the Database described below.)

"Delete Devices and Accs"

(menu / AutoPlot / Place, Delete, Change ACCESSORIES /)

This macros deletes all accessories and devices from selected groups, removes them from the "Accessories" field of the accompanying fixture and ungroups the the fixture.

"Delete Half Hats"

(menu / AutoPlot / Place, Delete, Change ACCESSORIES /)

This macros deletes half hats from selected groups, removes them from the "Accessories" field of the accompanying fixture and ungroups the fixture.

"Delete Scrollers"

(menu / AutoPlot / Accessories /)

This macros deletes scrollers from selected groups, and ungroups the fixture.

"Delete Top Hats"

(menu / AutoPlot / Place, Delete, Change ACCESSORIES /)

This macros deletes top hats from selected groups, removes them from the "Accessories" field of the accompanying fixture and ungroups the fixture.

"DeSelect Invis Layers"

(menu / AutoPlot / Other Commands /)

Sometimes you will experience a dialog that asks if you want to number across invisible layers. Most of the time the answer is "No", and so is the default answer. After a few of these you will get rather annoyed, usually because you don't know of anything selected on those invisible layers. You are then faced with searching all the invisible layers, deselecting as you go, or you can use this macro which deselects anything on any invisible layer.

"DeSelect NonActive Layer"

(menu / AutoPlot / Others /)

This performs a very similar function as the "DeSelect Invis Layers" above, except that this macro deselects everything that is not on the active layer whether or not the layer is visible. If you don't know what you are doing, you will find this macro can have some inconvenient but not catastrophic results. If you know what you are doing, this is another simple but cool macro.

"Dim Between Lights"

(menu / AutoPlot / Dimensioning /)

This macro will place dimensions that are calculated from one instrument to the next between the selected fixtures. This macro will work on any orientaion of lights, not just positions drawn horizontal to the page. Users are cautioned to align and space their fixtures (using AutoPlotVW macros, of course) so that the dimensions are not made inaccurate by small differences in the X and Y cooridinates that are not intended. The macro will use whatever dimension style is currently selected. The default font and font size for dimensioning is the default font and size that is selected when no other objects on the drawing are selected.

"Dim Between Lights wo 18 "

(menu / AutoPlot / Dimensioning /)

Often fixtures on a plot are spaced at a standard interval (usually 18 inches in the US), and the spacing interval is given in a note on the plot; only exceptions to the standard spacing are dimensioned on the plot. This macro will dimension between lights, but it will ask for a dimension that you desire NOT to be displayed. It will then wait for a click to determine on which side to put the dimensions. It will then draw the dimensions between each selected fixture except for those dimensions that match the distance selected not to be displayed. If you leave the requested dimension dialog blank, all the dimensions will be displayed.

"Dim from Center Line (H)"

(menu / AutoPlot / Dimensioning /)

This macro will dimension all the selected lights from the centerline. There must be an object called Center Line in the drawing. (See the "Move To Closest Unit" Macros for additional functionality)

Kenny's Dim from Ctr

(menu / AutoPlot / Dimensioning /)

This macro will dimension all the selected lights from the centerline. There must be an object called Center Line in the drawing. (See the "Move To Closest Unit" Macros for additional functionality). This macro uses a different dimension style than the macro above. This style obscures less of the drawing and is a little clearer to some. The dimensions stay selected so you can change both the alignment and font of the dimension text. This macro was suggested by Kenny Schutz who showed me how he liked to dimension

"Dim from Click"

(menu / AutoPlot / Dimensioning /)

This macro will dimension all the selected units from one user selected point; it assumes that all the lights are on the same line as the line formed by the first and last units of the selection. If the units are not so aligned, you might find the result useable, but chances are good that you will have to undo the dimensioning and align the lights; see the spacing and distribution tools and commands. The macro requires 2 single mouse clicks from the user. This macro can be used to dimension lights from the bottom or top, from the right or left, or from a center click.

The first click:

This is the starting point you wish to measure from. If the click is not on the line formed by the fixtures, the macro will find the point on that line that the click is "normal" to. This will allow you click on a centerline off of the line created by the fixtures and the macro will dimension the fixtures from where the centerline meets the pipe. It is very handy to have the constraints and screen hints activated so that it is easier to click on exactly what you wish.

The second click:

This is which side of the fixtures you wish the dimensions to be displayed.

This macro lets you dimension from the centerline, the end of the pipes, or some piece of convenient architecture not aligned with the fixtures.

"Distrib Syms Along Line"

(menu / AutoPlot / DISTRIBUTE Along a Line… /)

This macro will distribute lights along a line in the order of their unit#, or, if there are no unit #s, it will maintain the original X coordinate order. It will distribute the selected objects evenly along a line that is drawn after the macro is invoked with the first and last units on each end of the line.

"Distrib Syms by Dist."

(menu / AutoPlot / DISTRIBUTE Along a Line… /)

This macro works just as the macro above, "Distribute Symbols along line", but instead of using the requested line's length to evenly space the instruments, it lets you specify the spacing in inches.

"Distrib Syms in Spaces"

(menu / AutoPlot / DISTRIBUTE Along a Line… /)

This macro divides the line you draw into a number of spaces equal to the number of selected units and puts the units into the center of each space on the line.

"Edit Line Set Col Widths"

(menu / AutoPlot / Line Sets from a worksheet /)

The Line Sets macros use the default text settings of the document. The columns that the fancy line set macro makes may not be the appropriate width to hold the information you have entered. The width of the columns is determined by the values in the "LineSet Prefs" record. The units used are inches, centimeters, or meters, which ever is appropriate. You can edit the record directly or you can use this macro, "Edit Line Set Col Width," to edit the values. this macro will allow you to use feet and inches if that is what the drawing units are.

"Enter Data for Selected"

(menu / AutoPlot / Enter Data /)

This macro will put up a dialog box of fields to edit for each of all the selected fixtures. You have the option to sort by Unit # if you desire. The macro will then put up the dialog for the first fixture. It will fill all the fields with their current value. You can tab and reverse tab (shift tab) between fields. When you hit the return key on the keyboard or the "Enter" button on the dialog it cycles to the next fixture. When you get to the end the macro quits. If you wish to quit the macro before getting to the end of the list there is a "Finish" button on the dialog. *There is a default field selector that will let you select the field that is first selected when you go from fixture to fixture*.

"Enter Position for Select"

(menu / AutoPlot / Enter Data /)

This macro requests a position name and puts that name in the position field of all the currently selected units. This macro is especially useful when assigning a position to fixtures that are grouped, such as strip lights or lights grouped with accessories.

"Erase Fixture IDs"

(menu / AutoPlot / Other Commands /)

Sometimes you may wish to start the whole process of communicating with the paperwork over. This macro will assign new Plot IDs to each fixture. (It is likely that you won't use this macro until you call me in a panic, which is OK.)

Export Data w Labels

 (See description of exporting and importing below)

"Fill Device Types(All)"

"Fill Device Types(Empty)"

(menu / AutoPlot / Enter Data /)

Many macros, especially the new ones involving Accessories and Devices require that the "Device Type" field in every Fixture Data 2 record be filled correctly. These macros will fill the "Device Type" field with either "Light" or "Device" based on the contents of the "Type" field in that record.
The "(Empty)" version will only fill those "Device Type" fields that have no entries.
The "(All)" version will fill all the "Device Type" fields, even if they already have an entry.
Normally, you will use the "(Empty)" version to catch those fields that you forgot to fill when you were making or changing your symbols. However, if you send empty "Device Type" fields to Lightwright, Lightwright will fill them with the word "Light" no matter what is in the "Type" field. If you have symbols suffering from Lightwright's incorrectly filling the "Device Type" field use the "(All)" version.

"Fill Selec w Bogus Data"

(menu / AutoPlot / Symbol Editing Aids /)

When making symbols it is often desirable to put data in the fields of the symbol to see how the symbol is behaving. This macro will fill all selected symbols in the drawing with the same set of data values, so that you see the text fields. The data is arbitrary and based on nothing in the drawing.

"Fill Sym Def Data"

(menu / AutoPlot / Symbol Editing Aids /)

While in the Symbol Edit window, it is often desirable to put data in the fields of the symbol to see how the symbol is behaving. This macro will fill all selected symbols with the same set of data values, so that you see the text fields. The data is arbitrary and based on nothing in the drawing. Unfortunately, Vectorworks 11 no longer will allow vectorscript commands to force updates of text in symbol edit window, so you will need to exit (the "Exit Symbol" button or "command-[" key stroke) and then reenter the symbol edit window to see the text displayed. Remember to use the "Clear Sym Def Data" macro when you are done arranging the text.

"Find UnPositioned"

(menu / AutoPlot / Other Commands /)

Use of this macro will circle all the fixtures that have an empty position field.

"Find-Replace Field Value"

(menu / AutoPlot / Enter Data /)

Use of this macro will allow you to find all the fixtures that have a value in a field and replace that value in all the selected fixtures. This macro allows to specify true equality of values, or you may use the "contains" operator which is very powerful. .

"Fix Text In Groups"

(menu / AutoPlot / Other Commands /)

Use this macro after you have changed the text using the Object Info palette in a fixture that is represented by a group. You need to do this because when you use the "Shallow Symbol to Group" command all the text fields become unlinked from the data. Only symbols can have text linked to data. You do not need to use this command when one of the AutoPlotVW macros changes the data, because the AutoPlotVW macros fix the text in groups automatically.

"Fix Twofer Dots"

(menu / AutoPlot / Twofering)

Sometimes twofer dots, little circles indicating a connecting corner, are too large or small. Sometimes twofer dots get turned into ovals instead of circles by repositioning twofer lines. This macro will let you fix all of this. Specify the size of the dot and all twofer dots are changed to circles of that size.

"Flip Each Object (H)"

"Flip Each Object (V)"

(menu / AutoPlot / SWAP or ROTATE Fixtures)

A handy feature in VectorWorks is that you can select multiple objects and then flip that set of objects with the Flip Horizontal and the Flip Vertical commands. When you use the standard VectorWorks commands the object on the right will go to the left or the object that was on the top will go to the bottom, respectively. This is often ***not*** what you wished. Many times you would like to select a group of objects and then flip each one, individually in place. This is particularly

handy when you have mirrored or flipped fixtures horizontally. _These two_
commands will flip each selected object individually, in place, not as a group.

"Hide All Selected Classes"

(menu / AutoPlot / Class Visibility /)

This macro collects all the classes of all selected objects and hides all objects
assigned to those classes. This macro was designed to be use with imported
DWG drawings.

"Hide by Class Example"

(menu / AutoPlot / Class Visibility /)

This macro hides all objects that share the same class as the first selected
object on the active layer. This macro was designed to be use with imported
DWG drawings.

"Hide Channel"

(menu / AutoPlot / Text Visibility /)

This macro hides the text that displays the Channel field on the plot.

"Hide Circuit"

(menu / AutoPlot / Text Visibility /)

This macro hides the text that displays the Circuit field on the plot.

"Hide Colors"

(menu / AutoPlot / Text Visibility /)

This macro hides the text that displays the color fields on the plot.

"Hide Color2"

(menu / AutoPlot / Text Visibility /)

This macro hides only the text that displays the Color2 field on the plot.

"Hide Cyc Color"

(menu / AutoPlot / Text Visibility /)

This macro hides the color assigned to cyc and striplight units. For this macro to work, it is required that the color fields attached to these units have the word "CYC" attached to their class designations. NOTE: After using this macro, you will want to use one of the show text size macros ("Show Half inch Text" or "Show Quarter inch Text"), because the when this macro shows cyc color, it will show both 1/2 inch and 1/4 inch text. Use the "Apply Cyc Color Class" macro to convert the color fields in your striplight units so they can use this macro.

"Hide Dimmer"

(menu / AutoPlot / Text Visibility /)

This macro hides the text that displays the Dimmer field on the plot.

"Hide Short Purp"

(menu / AutoPlot / Text Visibility /)

This macro hides the text that displays the Short Purp field on the plot.

"Hide Unselected Classes"

(menu / AutoPlot / Class Visibility /)

This macro collects all the classes of all selected objects and hides all objects not assigned to those classes. This macro was designed to be use with imported DWG drawings.

Import Data to Plot

Import Manually

 (See description of exporting and importing below)

"Kenny's Dim from Ctr

(menu / AutoPlot / Dimensioning /)

This macro will dimension all the selected lights from the centerline. There must be an object called Center Line in the drawing. (See the "Move To Closest Unit" Macros for additional functionality). This macro uses a different dimension style than the macro above. This style obscures less of the drawing and is a little clearer to some. The dimensions stay selected so you can change both the alignment and font of the dimension text. This macro was suggested by Kenny Schutz who showed me how he liked to dimension.

"Leadered Label"

(menu / AutoPlot / Other Commands /)

This macro was developed by Richard Yopung and posted on America On Line. It's a nice way to put arrowhead labels into your document. The macro keeps running until you double click which allows you to plop down a lot of labels without having to invoke the macro each time. All the labels are put in their own class and drawn on their own layer.

"Legend Symbol Collector"

(menu / AutoPlot / Other Commands /)

This macro will look through the drawing and collect one sample of each type of fixture that you are using. The macro uses what is entered in the "Type" field of each unit. For example, once the macro has found a 6X9 it will use that symbol and it will ignore all other symbols that have 6X9 as the entry in the "Type" field. However, "6X9 iris", as an entry in the "Type" field, is different from "6X9", so that symbol is collected in addition, etc. The macro will collect the symbols, put them in a column, label them, and disconnect them from the database so that they are not exported or counted. This is only an aid in making sure you have all your symbols in your symbol key when you create it. It will not keep you from having to create and edit your symbol key.

"Line Sets" (fancy and simple)

(menu / AutoPlot / Line Sets from a worksheet /)

This macro will layout line sets up the screen according to information provided in the worksheet named "Line Sets", and a click provided by the user. If the line sets worksheet does not exist, one will be created and the user will be told to fill in the information in the worksheet and run the macro again. The information in the worksheet is held in four columns. The first row contains column labels, "Line#," "Distance," "Label," and "Trim." In the first column labeled "Line#," the user should enter the number of each line set or the label that you want to display by the line set. In the second column labeled "Distance," the user should enter the distance from the plaster line or from any point that you desire that the line set is measured from. In the third column labeled "Label," the user should enter any additional label information they desire. In the fourth column labeled "Trim," the user should enter the height from the stage for the trim of this line set; in actual fact, you can enter anything you wish here. Once this worksheet is filled in, when the macro is run, the user will be asked to indicate which side of the line set indication that the labels should be placed. The user will then be asked to click on the plaster line or whatever part of the drawing that the line sets should be measured from. Once the user clicks, the line sets will be laid out up the screen. The "Line Sets (fancy)" macro will ask if you wish to offset the location of every other line set because they are too close for the labels to display clearly.

"Link Other Text Classes"

(menu / AutoPlot / Symbol Editing Aids /)

This macro will allow you to select a class in the drawing class list and a field in the "Fixture Data 2" record. Any text fields that are assigned to the class are linked to the chosen field in the "Fixture Data 2" record. This macro is useful if you have inherited, borrowed, found, or made symbols that have text fields that are not linked to any field in the "Fixture Data 2" record. These text fields will need to be assigned to a class for this macro to work.

"List Unused Circuits"

(menu / AutoPlot / Enter Data /)

This macro will ask for the range of circuit numbers. It will then make a worksheet list of all the circuit numbers that have not been assigned to the "Circuit" field in the drawing.

"List Unused Dimmers"

(menu / AutoPlot / Enter Data /)

This macro will ask for the range of dimmer numbers. It will then make a worksheet list of all the circuit numbers that have not been assigned to the "Dimmer" field in the drawing.

"List Unused Multis"

(menu / AutoPlot / Enter Data /)

This macro will make a worksheet of Multi breakouts that have <u>not</u> been used in the "Circuit Name" field. It will ask if you want to use a table as the source for a list of multis available for assignment in the drawing. If you say yes, it will look for a worksheet called "Table of Multi Breakouts" If you say no, the macro will compile a list of multis based on the breakouts that it sees used; it will assume that all the multis have 6 circuit breakouts.

"Make AP Container Set"

(menu / AutoPlot / Symbol Editing Aids /)

(See the separate "Making and Adapting Symbols" document)
This macro is the same as "Make AP_Symbol Set" except that it will use container symbols to place channel and circuit information. If not container symbols are in the document this macro will create them. You may edit the container symbols to be anything you wish. The macro will separate the containers from the fixture and each other by a distance that you specify. You may specify negative numbers so that containers ovelap the fixture and each other if you wish.

This macro will take a symbol pointing up screen and make a set of seven symbols facing different directions with all the text fields linked and attached to the right class. The symbol you use for this process should probably begin with a "g". For example start with a symbol named "gSource 4 36" with no text; the macro will make seven symbols with all the text linked and classed. The seven symbols will be named "Source 4 36", "Source 4 36 >", "Source 4 36 b/l", "Source 4 36 /", "Source 4 36 \", "Source 4 36 truss", "Source 4 36 boom",

"Make AP Symbol"

(menu / AutoPlot / Symbol Editing Aids /)

 (See the separate "Making and Adapting Symbols" document)
This macro will take whatever is selected and make it a symbol that is attached to the "Fixture Data 2" record. Any text that is to display field values must be assigned a class whose name contains the name of the field prior to invoking the macro. For example, and text field that is in the "1/4-Channel" class will be linked to the "Channel" field when the symbol is made.

"Make AP Symbol Set"

(menu / AutoPlot / Symbol Editing Aids /)

 (See the separate "Making and Adapting Symbols" document)
This macro will take a symbol pointing up screen and make a set of seven symbols facing different directions with all the text fields linked and attached to the right class. The symbol you use for this process should probably begin with a "g". For example start with a symbol named "gSource 4 36" with no text; the macro will make seven symbols with all the text linked and classed. The seven symbols will be named "Source 4 36", "Source 4 36 >", "Source 4 36 b/l", "Source 4 36 /", "Source 4 36 \", "Source 4 36 truss", "Source 4 36 boom",

"Make Color Count WKS"

(menu / AutoPlot / Others Commands/)

This macro will create a worksheet that will count the number of each color value on the plot.

"Make Fixture Count WKS"

(menu / AutoPlot / Others Commands/)

This macro will create a worksheet that will count the number of each type of instrument that is on the plot. It will not make entries in the worksheet for lights that are not on the plot drawing (i.e. unused symbols). You can manually add rows for inventory that has not been used if you wish. The worksheet uses the "Type" field for comparison and counting. E.G. All the lamps that have "6X9" in the "Type" field will be counted and put in one row; all the lamps that have "6X9 Iris" in the "Type" field will be put in another row. If you should put accessory indications such as "Iris" in the "Accessory" field, and this macro will end up grouping all the 6X9s together. If you manually enter your inventory amounts, in the "Inventory" column, the macro will due the subtraction and compute what is left. There is a Fixture Count worksheet in the "APVW Symbols" file that you can import if you wish.

"Make One AP Symbol"

(menu / AutoPlot / Symbol Editing Aids /)

 (See the separate "Making and Adapting Symbols" document)
This macro is the same as "Make AP_Symbol Set" except that it will only make one symbol pointing straight up screen. This is u.seful when making multicircuit symbol elements.

"Manually Channel Assign"

(menu / AutoPlot / Enter Data /)

This macro will assign channel values to each fixture you click on. The macro will increment each time by the increment level you set. If you do NOT want to increment on the next click hold down the option or shift key. The channel number that you assign will not increment until you cease holding down the modifier key. Click on nothing (something other than a fixture) to end the macro

"Manually Circuit Assign"

(menu / AutoPlot / Enter Data /)

This macro will assign circuit values to each fixture you click on. The macro will increment each time by the increment level you set. If you do NOT want to increment on the next click hold down the option or shift key. The circuit number that you assign will not increment until you cease holding down the modifier key. Click on nothing (something other than a fixture) to end the macro

"Manually Dimmer Assign"

(menu / AutoPlot / Enter Data /)

This macro will assign dimmer values to each fixture you click on. The macro will increment each time by the increment level you set. If you do NOT want to increment on the next click hold down the option or shift key. The circuit number that you assign will not increment until you cease holding down the modifier key. Click on nothing (something other than a fixture) to end the macro

"Move Message Box"

(menu / AutoPlot / Other Commands /)

The message box that can appear during macros is not always in a convenient place. Usually you will be unable to move the message box during the execution of a macro and it will disappear before you can put it in a more convenient place. This macro will show the message box and allow you to move it and then close it. The message box will always appear in the position on screen that it was last left.

"Move To Closest Unit" Macros

(menu / AutoPlot / SHIFT Fixtures to Whole Dimensions /)

The 3 macros below are designed to move units to the closest unit of measurement specified by the user. This will make the dimension macros yield dimensions that are much cleaner. None of these three macros will work well with diagonally spaced fixtures.

"Move To Closest Unit(H)"

(menu / AutoPlot / SHIFT Fixtures to Whole Dimensions /)

This macro will ask the user ot specify a unit of measure, and then it will ask the user to click on a point to measure from. If a symbol's X-coordinate is not evenly divisible by that unit of measure, the macro will look in both horizontal directions and place the symbol on the closest X-coordinate divisible by that unit of measure. The macro will perform this operation on all selected symbols.

" Move To Closest Unit(V)"

(menu / AutoPlot / SHIFT Fixtures to Whole Dimensions /)

This macro will ask the user ot specify a unit of measure, and then it will ask the user to click on a point to measure from. If a symbol's Y-coordinate is not evenly divisible by that unit of measure, the macro will look in both horizontal directions and place the symbol on the closest Y-coordinate divisible by that unit of measure. The macro will perform this operation on all selected symbols.

" Move To Closest Unit-Ctr"

(menu / AutoPlot / SHIFT Fixtures to Whole Dimensions /)

This macro will work just like the "Move to Closest Unit(H)" macro, except it will use any object named "Center Line" as the point to measure from instead of a user supplied click. If no such Center Line object exists, the macro will tell you.

NUMBERING FIXTURES, DEVICES AND ACCESSORIES

Devices grouped with a lighting fixture, it will be given the same unit number and position description. This is the convention that has been adopted by LightWright and is used in the numbering macros of AutoPlotVW. If a device is not grouped with a lighting fixture, it will be given "0" for a number by the numbering macros. You can still assign it any number you want with the AutoPlotVW data entry macros or the Object Info palette. In general you should assign "Device" to any symbol that represents something that needs a DMX channel, like a color scroller. You should assign "Accessory" to any symbol that represents something that does not need a DMX channel, like a barn door. My own personal preference is not to assign records to anything that does not have its own entry in the paperwork, so I don't assign records to barndoors and the like.

NUMBERING STRIP LIGHTS AND CYC UNITS

The unit numbering in striplights can be either decimal (1.1,1.2), A1, A2, or 1a,1b type. The decimal numbering is easier to implement and makes more sense than the Unit A Circuit 1 system that is standard on most light plots. This method is also more consistent with the numbering of other instruments on the plot. However, the Lightwright 4 convention of numbering fixture attributes like the multiple channels of a moving light as decimal numbers has made it difficult to number striplights with decimal numbers. Using the 1a,1b convention is easily confused with the convention of numbering later added units as 2A, or 4A. However much I dislike Lightwright 4's and Jean Rosenthal's convention of A1, A2. It seems to be the way to go, but you get to choose your poisen.
The stripligt numbering macros will now ask for a direction from which to number.

"Number 2 Cir Strips"

(menu / AutoPlot / Numbering Fixtures /)

This macro will number the selected units increments unless the instruments have the words "STRIP", "CYC", or "GROUNDROW" in the Type field of the data record; case does not matter. If any of those type descriptions is found, the macro starts numbering in groups of 2 in the following manner:
1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 4.1, 4.2.

"Number 2 Cir Strips ABC"

(menu / AutoPlot / Numbering Fixtures /)

This macro will number striplights in the traditional Lightwright and USITT approved A1, A2, , B1, B2, C1, C2, manner.

"Number 2 Cir Strips/1a1b"

(menu / AutoPlot / Numbering Fixtures /)

This macro will number striplights 1a,1b,2a,2b,3a,3b..

"Number 3 Cir Strips"

(menu / AutoPlot / Numbering Fixtures /)

This macro will number the selected units increments unless the instruments have the words "STRIP", "CYC", or "GROUNDROW" in the Type field of the data record. If any of those type descriptions is found, the macro starts numbering in groups of 3 in the following manner: 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3..

"Number 3 Cir Strips ABC"

(menu / AutoPlot / Numbering Fixtures /)

This macro will number striplights in the traditional Lightwright and USITT approved A1, A2, A3, B1, B2, B3 manner.

"Number 3 Cir Strips/1a1b"

(menu / AutoPlot / Numbering Fixtures /)

This macro will number striplights 1a,1b,1c,2a,2b,2c,3a,3b,3c..

"Number 4 Cir Strips"

(menu / AutoPlot / Numbering Fixtures /)

This works just as the 3 circuit striplight numbering except that the decimal increments go up to .4, e.g. 1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.3, 2.4.

"Number 4 Cir Strip ABC"

(menu / AutoPlot / Numbering Fixtures /)

This macro will number striplights in the traditional USITT approved A1, A2, A3, A4, B1, B2, B3, B4 manner.

"Number 4 Cir Strips/1a1b"

(menu / AutoPlot / Numbering Fixtures /)

This macro will number striplights 1a,1b,1c,1d,1d,2a,2b,2c,2d,3a,3b,3c,3d.

"Number Boom Example"

(menu / AutoPlot / Numbering Fixtures /)

This macro will look at the position ot the first selected fixture on the active layer, and it will number all the fixtures at that position starting at "1". <u>This macro only works on positions layed out vertically on the screen</u>.

"Number Bottom to Top"

(menu / AutoPlot / Numbering Fixtures /)

This macro will number the selected symbols from screen bottom to screen top. Normally I would describe this as downstage to upstage, but the macros have no way of knowing what the orientation of the stage is on the screen.

"Number Horiz Position"

(menu / AutoPlot / Numbering Fixtures /)

This macro will ask for a position name and then look through the entire drawing for symbols with that name in the position field. It will then sort them and number them from screen right to screen left.

"Number Manually"

(menu / AutoPlot / Numbering Fixtures /)

This macro will number each fixture that you click on.

It will start at a number you specify. If you hold down the "shift" key, the number stays the same and letters are added. If you hold down the "option" key, the numbers start back at the starting number. With the "option" key, you can initiate numbering different positions without leaving the macro. The message box indicates what the next number to be placed will be.

"Number Pipe Example 3A"

(menu / AutoPlot / Numbering Fixtures /)

This macro will look at the position ot the first selected fixture on the active layer, and it will number all the fixtures at that position starting at "1". If there are multi circuit units (striplights) at that position, they will be assumed to be 3 circuit strips and will be numbered in the A1,A2,A3 style. <u>This macro only works on positions layed out horizontally across the screen</u>.

"Number Selected from Lft"

(menu / AutoPlot / Numbering Fixtures /)

Same as "Number Selected" but numbers in the opposite direction, i.e. from screen left (Stage Right) to screen right.

"Number Selected from Rt"

(menu / AutoPlot / Numbering Fixtures /)

This will number the selected symbols from screen right to screen left using integer increments. Normally I would describe this as stage left to stage right, but the macros have no way of knowing what the orientation of the stage is on the screen.

"Number Top to Bottom"

(menu / AutoPlot / Numbering Fixtures /)

This macro will number the selected symbols from screen top to screen bottom. Normally I would describe this as upstage to downstage, but the macros have no way of knowing what the orientation of the stage is on the screen.

BOOM NUMBERING

NOTE: The boom numbering is based on the convention of numbering the lights that are closest to the proscenium first. So, double hung booms should be numbered differently if they are on different sides of the proscenium wall. The boom numbering macros assume that the booms, ladders, or trees have been placed up stage of the proscenium wall. If you wish to use these macros to number box booms, windows or other positions downstage of the proscenium wall use the macro that is designated for the opposite side of the stage, e.g., a stage left box boom (audience right) would use the "Number SR Boom" macro.

"Number SL Boom"

(menu / AutoPlot / Numbering Fixtures /)

This macro will number lights from screen top to screen bottom. Symbols at approximately the same vertical position are numbered from screen right to screen left.

"Number SR Boom"

(menu / AutoPlot / Numbering Fixtures /)

This macro will number lights from screen top to screen bottom. Symbols at approximately the same vertical position are numbered from screen left to screen right.

"NY Numbering"

(menu / AutoPlot / Text Visibility /)

The NY Broadway method of making a plot only puts the fixture/accessory graphic on the plot with its unit#. All other information is kept in the paperwork. No channel, color, or circuit information is placed on the plot. This macro will hide all the info in the AutoPlotVW symbols and place a text field containing the Unit# value on the insertion point of every fixture. The macro uses the text font and size that is currently selected as the documents default. All the text remains selected if you wish to change its size, style or font. These text labels are assigned to the class "Mckernon Numbers". This macro does no numbering or assigning of values to any of the "Fixture Data 2" fields. It only changes the display of that information which is why it is in the "AutoPlot/Text Visibility" menu.   (See "Restore AutoPlotVW Text")

"Place Accs or Devices"

(menu / AutoPlot / Place, Delete, Change ACCESSORIES /)

This macro places accessories and devides in front fixtures at a distance from the fixture specified in the "AP Preferences" record. This macro will ask you to pick the symbol of the accessory or device you wish to place from a list. The current active symbol will start as the selected symbol. Along with the list, you will be asked if you wish to add the selected accessory/device to all the currently selected symbols OR if you want to use the mouse to pick which fixtures get assigned the accessory/device. If you choose to use the mouse, the macro will present you with a cross cursor and will place the selected accessory/device symbol on each fixture that you click the mouse on. End the macro by clicking on nothing (empty space on drawing). If you choose to add to all selected fixtures the accessory/device will be attached to all the fixtures that are currently selected. When an accessory (top hat, etc.) symbol has been selected that symbol is grouped with the fixture, and the name of the symbol is added to the "Accessories" field of the the fixtures record. If a device (color scroller, etc.) symbol has been selected it is grouped with the fixture, and it is assigned unit# and position values that are the same as the fixture. If you want the accessory/device symbol to be in a different place edit the group and move it to where you wish. Because the fixture is now a member of a group, it will no longer show its data in the Object Info palette unless you edit the group. All the data can still be edited with the "AP_Enter Data for Selected" macro without editing the group.

"Preferences"

(menu / AutoPlot /)

This macro allows you to edit the „"AP Preferences" Record which sets the default values used in many of the dialogs and macros.

"Purpose to Short Purp"

(menu / AutoPlot / Enter Data)

This macro will look at each fixture and if there is a value in the "Purpose" field and **_no_** value in the "Short Purpose" field, the macro will copy the value of the "Purpose" field into the "Short Purpose" field. This macro will not overwrite any values that are already present in the "Short Purpose" field.

"Registration Support"

(menu / AutoPlot)

Registration and Shareware Info.

"Replace Selected Symbols"

(menu / AutoPlot / Others Commands/)

This macro will replace all the currently selected symbols in the plot with a symbol you select. This will only work with fixture symbols; it will not work with device or accessory symbols. The dialog asking you to select a symbol will start with the active symbol definition highlighted. It will preserve all the data from the old symbol except for the "Type" and "Wattage" fields which it will replace.

"Reset Origin"

(menu / AutoPlot / Others Commands/)

This macro will reset the origin to the original 0,0 of the drawing. This can be useful if you find that your spacing and alignment commands and macros are not behaving as expected. The AutoPlotVW spacing and alignment commands should not be dependent on the original origin, VectorWorks has had inconsistent performance in the past.

"Restore AutoPlotVW Text"

(menu / AutoPlot / Text Visibility /)

This macro deletes all the text that has been assigned to the "McKernon Numbers" class and restores the visibility of the AutoPlotVW Text fields. (See "NY Numbering")

"Rotate Each Each by Ang Query"

(menu / AutoPlot / SWAP or ROTATE Fixtures /)

This macro will rotate each selected object a set number of degrees, selected by the user, individually. This is different from the normal VW rotate command that would rotate all the selected objects as a group.

"Rotate Each Obj Left 90"

(menu / AutoPlot / SWAP or ROTATE Fixtures /)

This macro will rotate each selected object 90 degrees to the left, individually. This is different from the normal VW rotate command that would rotate all the selected objects as a group.

"Select By Chan Examp"

(menu / AutoPlot / Select Fixtures /)

Select a fixture as a sample and then invoke this macro to select all the symbols with the same value in the "**Channel**" field of the "Fixture Data 2" database.

"Select By Channel Range"

(menu / AutoPlot / Select Fixtures /)

This macro will select all the fixtures that have values entered in the "Channel" field that are within a queried range.

"Select By Circ Examp "

(menu / AutoPlot / Select Fixtures /)

Select a fixture as a sample and then invoke this macro to select all the symbols with the same value in the "**Circuit**" field of the "Fixture Data 2" database.

"Select By Color Example"

(menu / AutoPlot / Select Fixtures /)

Select a fixture as a sample and then invoke this macro to select all the symbols with the same value in BOTH the "**Color**" and "**Color2** fields of the "Fixture Data 2" database.

"Select By Color1 Example"

(menu / AutoPlot / Select Fixtures /)

Select a fixture as a sample and then invoke this macro to select all the symbols with the same value in the "**Color**" field of the "Fixture Data 2" database. It ignores values in the "Color2" fields.

"Select By Color2 Example"

(menu / AutoPlot / Select Fixtures /)

Select a fixture as a sample and then invoke this macro to select all the symbols with the same value in the "**Color2**" field of the "Fixture Data 2" database. It ignores values in the "Color" fields.

"Select By Either Color"

(menu / AutoPlot / Select Fixtures /)

Select a fixture as a sample and then invoke this macro to select all the symbols with the same value in EITHER the "**Color**" OR "**Color2** fields of the "Fixture Data 2" database. Empty color values are not used for comparison in this macro.

"Select By Note"

(menu / AutoPlot / Select Fixtures /)

This macro allows you to specify a field to look in and a value to look for. You can also specify whether you want an exact match or fields that "contain" the value. If you select the contain option and search for "Red" then both "Red Far Cyc" and "Red Ground Row" will be selected. The macro will remember the field you last looked in and that will be the default selection when the macro is activated. If there is a fixture selected when you specify a field to look in the macro will place the current value of the the field in that fixture as the default look up value. If you change the field to look in and there is a fixture selected on the drawing. The value in that fixture will be placed in the look up value field. You can, of course, change the look up value at any time.

"Select By Posit & Color"

(menu / AutoPlot / Select Fixtures /)

Select a fixture as a sample and then invoke this macro to select all the symbols with the same value in the "Position" field and the same value in both the "**Position**" and "**Color**" fields of the "Fixture Data 2" database.

"Select By Pos & Type"

(menu / AutoPlot / Select Fixtures /)

Select a fixture as a sample and then invoke this macro to select all the symbols with the same value in the "**Position**" field and the same value in the "**Type**" field of the "Fixture Data 2" database.

"Select By Position Examp"

(menu / AutoPlot / Select Fixtures /)

Select a fixture as a sample and then invoke this macro to select all the symbols with the same value in the "**Position**" field of the "Fixture Data 2" database.

"Select By Short Purp"

(menu / AutoPlot / Select Fixtures /)

Select a fixture as a sample and then invoke this macro to select all the symbols with the same value in the "**Short Purp**" field of the "Fixture Data 2" database.

Be sure you understand the difference between the following 2 selection macros

"Select By Symbol Type"

(menu / AutoPlot / Select Fixtures /)

Select a fixture as a sample and then invoke this macro to select all the symbols with the same **symbol type** regardless of what is in the "Type" field of the "Fixture Data 2" record.

"Select By Type Example"

(menu / AutoPlot / Select Fixtures /)

Select a fixture as a sample and then invoke this macro to select all the symbols with the same value in the "**Type**" field of the "Fixture Data 2" database.

"Set Sym Maker Defaults"

(menu / AutoPlot / Symbol Editing Aids /)

 (See the separate "Making and Adapting Symbols" document)
This macro will set the font, style, and size used by the "Make AP Symbol Set" macro. It will also set the field links use by that macro.

"Set Symbol Height"

(menu / AutoPlot / Symbol Editing Aids /)

This macro will set the Z height of the selected symbols. This can also be done using the Object Info(OI) palette, but using the OI palette requires that you be in a 3D view; this macro will work while you are in plan view.

"Short Purpose to Purpose"

(menu / Enter Data /)

This macro will look at each fixture and if there is a value in the "Short Purpose" field and ___no___ value in the "Purpose" field, the macro will copy the value of the "Short Purpose" field into the "Purpose" field. This macro will not overwrite any values that are already present in the "Purpose" field.

"Show All Classes"

(menu / AutoPlot / Class Visibility /)

This macro makes visible every class in the document. This was designed to be used with DWG imports where it is quite handy.

"Show Both Text Sizes"

(menu / AutoPlot / Text Visibility /)

 (See the separate "Making and Adapting Symbols" document)
This makes visible all text fields attached to record fields that have a class name preceded by "1/4 " or "1/2". You will definitely want to use this macro when you are creating, duplicating, and/or editing fixture symbols.

"Show Channel"

(menu / AutoPlot / Text Visibility /)

This macro will make visible the "Channel" field.

"Show Circuits"

(menu / AutoPlot / Text Visibility /)

This macro will make visible the "Circuit" and "Circuit Name" fields.

"Show Colors"

(menu / AutoPlot / Text Visibility /)

This macro will make visible the "Color" and "Color2" fields.

"Show Cyc Color"

(menu / AutoPlot / Text Visibility /)

This macro shows the color assigned to cyc and striplight units. For this macro to work, it is required that the color fields attached to these units have the word "CYC" attached to their class designations. NOTE: After using this macro, you will want to use one of the show text size macros ("Show Half inch Text" or "Show Quarter inch Text"), because the when this macro shows cyc color, it will show both 1/2 inch and 1/4 inch text. Use the "Apply Cyc Color Class" macro to convert the color fields in your striplight units so they can use this macro.

"Show Cyc Color Class"

(menu / AutoPlot / Text Visibility /)

This macro will show all text assigned to the Cyc Color class. (See "Apply Cyc Color Class").

"Show Dimmers"

(menu / AutoPlot / Text Visibility /)

This macro will make visible the "Dimmer" field.

"Show Half Inch Text"

(menu / AutoPlot / Text Visibility /)

This makes visible all text fields attached to record fields that have a class name preceded by "1/2 ", and it makes invisible all text fields attached to record fields that have a class name preceded by "1/4 ".

"Show Quarter Inch Text"

(menu / AutoPlot / Text Visibility /)

This makes visible all text fields attached to record fields that have a class name preceded by "1/4 ", and it makes invisible all text fields attached to record fields that have a class name preceded by "1/2 ".

"Show Selected Classes"

(menu / AutoPlot / Class Visibility /)

This macro collects the class assignments of <u>all the selected objects on the active layer</u> and <u>hides</u> all the other classes. This macro was designed to be use with imported DWG drawings.

"Show Short Purp"

(menu / AutoPlot / Text Visibility /)

This macro will make visible the "Short Purp" field.

"Show This Class Only"

(menu / AutoPlot / Class Visibility /)

This macro shows all objects that share the same class as the first selected object on the active layer and hides everything else. This macro was designed to be use with imported DWG drawings.

"Show This Class + None"

(menu / AutoPlot / Class Visibility /)

This macro shows all objects that share the same class as the first selected object on the active layer and all objects in the "none" class. The macro hides everything else. This macro was designed to be use with imported DWG drawings.

SPACING MACROS

The following spacing macros use the "AP Preferences" record to input default values in the dialogues. If you don't have an "AP Preferences" record the macro will make one. All the macros will give you a chance to change the default value.

For all the spacing macros, except "Space Horiz in Opening", holding down a key during the mouse click will abort the macro and move nothing.

"Space Horiz from Ctr"

(menu / AutoPlot / Space from Click /)

This macro will space the currently selected symbols a queried distance apart horizontally on each side of a user click point on the screen.

"Space Horiz from Left"

(menu / AutoPlot / Space from Click /)

This macro will space the currently selected symbols from left to right a queried distance apart horizontally starting at a user click point on the screen on the left side of where you want the symbols to start appearing.

"Space Horiz from Right"

(menu / AutoPlot / Space from Click /)

This macro will space the currently selected symbols from right to left a queried distance apart horizontally starting at a user click point on the screen on the right side of where you want the symbols to start appearing.

"Space Horiz in Opening"

(menu / AutoPlot / Space from Click /)

This macro will ask you to draw a line representing the distance of a horizontal opening you wish the wash to cover. It will then take the currently selected instruments, count them and use that number to determine the size of that number equal spaces on the pipe. It will then put each of the selected lights in the middle of one of those spaces.

e.g. You have already selected 5 lights on the FOH position. You then activate the macro. It asks you to draw a line representing the opening. You then draw a line that has a length of 40 feet along the X axis. The macro divides 40 feet by 5 coming up with 8 horizontal spaces and it then puts each of the selected lights in the middle of one of those spaces. The macro will not change any instrument's position on the Y axis.

"Space Vert from Bottom"

(menu / AutoPlot / Space from Click /)

Same as "Space Horizontally" but spaces from the click up the screen.

"Space Vert from Top"

(menu / AutoPlot / Space from Click /)

Same as "Space Horizontally" but spaces from the click down the screen.

SPACING MACROS IN METRIC DRAWINGS

When using the above macros in drawings done with metric units, enter the drawing units whenever it asks for input in inches. If the drawing units are meters, answer in meters. If the drawing units are centimeters, answer in centimeters, etc.

"Toggle BW Only"

(menu / AutoPlot /)

This macro toggles the document preference to display black and white only. If you are using colors, the drawing will be told to display black and white only. If you are displaying black and white only, the drawing will be told to display color.

"Toggle Black Background"

(menu / AutoPlot /)

If you start with importing a DWG file from AutoCAD, this macro will allow you to go back and forth between black and white backgrounds. Many DWG drawings are easier to read with a blac background.

"Toggle Layer Colors"

(menu / AutoPlot /)

This macro will toggle the "Layer Colors" document preference.

"Trade Places"

(menu / AutoPlot / SWAP or ROTATE Fixtures /)

This macro will take 2 selected objects and have them switch places. If the objects are AutoPlotVW lighting fixtures that have the "Fixture Data 2" record they will trade "Unit #" values and trade "Position" values. They will ***not*** trade their rotations or other field values.

"Twofer Selected"

(menu / AutoPlot / Twofering /)

This macro will connect up to 20 lights with a twofering indication. If the fixtures are wider than they are tall, the twofer will run horizontal. If the fixtures are taller than they are wide, the twofer will be vertical. If you wish to have the opposite orientation, hold down the option key when clicking on the position of the twofer line. The twofer indication is sent to the back of any layer it is drawn on so that it does not obscure notes, and the twofer lines are put into a class called "Twofer" so that you can hide their display if desired. As of version 16, all twofers are given "twofer dots" so that twofer bumps are no longer needed.

In order for the Twofering macro to work in the manner that you expect you must ungroup any fixtures that have been grouped together, e.g. strip and cyc units. You can leave Accessories and Devices grouped with their fixtures.

"Twofer Bump Horizontal"

(menu / AutoPlot / Twofering /)

This macro will request that you draw a rectangle around the intersection where you wish to place the bump in the twofer line. It will then redraw the horizontal portion of the intersection with a bump in it. It will then expect you to select another intersection and will keep repeating until you either double click or hold down a key on the keyboard while clicking at which point the macro will terminate.

"Twofer Bump Vertical"

(menu / AutoPlot / Twofering /)

This macro Is just like "Twofer Bump-H" above except that a bump is placed on the vertical portion of the intersection.

Twofer Bump Orientation.

The Orientation of the twofer bump is always in the same direction. If you wish to change the orientation of a twofer bump you must use the mirror tool (my preferred method) or flip it and drag it back to place.

"Update to Version 17"

(menu / AutoPlot / Drawing Conversions & Updates)

Plots and drawings made with AutoPlotVW version 15 and higher DO NOT need to be converted.

This macro will take a plot made up of symbols from earlier versions of AutoPlotVW that are connected to the "Lights" record or the "Fixture Data" record and convert the drawing for use by AutoPlotVW version 16. The macro will create the "Fixture Data 2" record, attach it to all fixture definitions and instances. It will copy the values that have been previously entered and assign those values to the appropriate fields in the "Fixture Data 2" record; the "Lights" and/or the "Fixture Data" record is then eliminated.

EXPORTING & IMPORTING THE DATABASE

Overview

AutoplotVW was originally created so that data in the drawing could be exported to an external database, have that data changed and manipulated in the database program, and then imported back to the drawing for display. Both Stan and I feel that the worksheet capability provided by VectorWorks, is not well adapted to the task of creating paperwork for theatrical lighting. Those of you who have worked with Lightwright 3 or 4 or have created your own paperwork templates in Filemaker Pro, Panorama, Excel or other programs understand and appreciate the power these programs provide for data entry and error checking. AutoPlotVW will probably never attempt to create paperwork with the VectorWorks worksheet functions.

"All Export Macros"

Use AutoPlotVW Export and Import Macros.

One must use one of the export macros listed under the AutoPlot menu and NOT the "Export Database" command under the File menu. This is because the AutoPlotVW macros write a unique name into each symbol name attribute and exports that name, (always a number) with the other fields. This name provides a unique plot link that will be used when importing data back to the plot file using the import command below.

Combination of the Color and Color2 fields.

The "Color2" and the "Color" fields are combined during export. If a delimiiter between color values is not specified a "+" is used The result would be R119+R52. LW3 and 4 can now recognize and count the color correctly. Combining the color fields is required because LW3, LW4, and my Panorama paperwork template recognize only one color field. Lastly, this macro will query you for a file name with a default of "AutoPlot Export"; you can use any file name you want and can remember.

Iris_Temp Field.

The "Iris_Temp" field is not exported or imported. The value "Iris_Temp" field is determined by the presence of a iris indication in the "Accessories" field and/or a non blank "Template" field.

AP Symbol Field.

This data is **_not_** a field in the "Fixture Data 2" record. The Export macros look for the name of the symbol being used for the fixture whose data is being written, and they append it to the data list just in front of the PlotLink field.

"Export Data w Labels"
(use with LW4 and other databases)

This macro creates a tab delimited text file with one row for each fixture and a tab between each field in the row. The first record or row of data is a tab delimited list of field names. This file can be read by most databases and matches the Lightwright 4 automated actions that came with the AutoPlotVW download. The fields are exported in the following order, the Lightwright 4 fields they are intended to fill are indicated in parentheses:

1. Unit #   (Unit#)
2. Position   (Position)
3. Short Purp   (Text 1)
4. Color (combined with Color2) (Color)
5. Type   (Instrument Type)
6. Accessories   (Accessories)
7. Wattage   (Wattage)
8. Channel   (Channel)
9. Purpose   (Purpose)
10. Circuit   (Circuit#
11. Circuit Name   (Circuit Name)
12. Dimmer   (Dimmer)
13. Template   (Template)
14. Miscl#1   (Text 2)
15. Miscl#2   (Text 3)
16. Miscl#3   (Text 4)
17. Miscl#4   (Text 5)
18. Miscl#5   (Number 1)
19. Miscl#6   (Number 2)
20 Miscl#7   (Number 3)
21. Miscl#8   (Number 4)
22. Miscl#9   (Number 5)
23. Miscl#10   (Number 6)
24. Mark   (Mark)
25. System   (System)
26. Device Type   (Device Type)
27. Needed for Focus   (Needed for Focus)
28. Instrument Type Note   (Instrument Type Note)
29. Focus Note   (Focus Note)
30. Focus Status   (Focus Status)

31. PaperWork ID   (Lightwright ID)
32. Symbol Name   (Instrument Type Symbol)
33. Plot Link   (External ID)
34. X-Coor   (Text 6)

The last field, "X-Coor" is the horizontal coordinate measured from an object named "Center Line" that you create and name. There are a variety of spellings of center line that the macro will recognize. If no object named center line exists then the X-Coordinate will be measured from the drawing's original origin. If you have moved the origin and no center line is named, the X-Coordinate will display the wrong values.
The X-Coor will not be imported back from the paperwork program. It is for the convenience of your electricians. The "x-coor" listed for fixtures on booms that are shown diagramatically will make no sense, so you may wish to delete those particular entries from your paperwork.

"All Import Macros"

One must use one of the Import macros listed under the AutoPlot menu and NOT any of the Import commands under the File menu. This is because the AutoPlotVW macros read the unique name that belongs to each symbol and apply the incoming changes to the correct fixture. In addition, the AutoPlotVW macros do additional processing to place new fixtures and flag changes.

Color Delimiters When Importing

All the Import macros assume that there is only one color field in the incoming data stream for each fixture. The import macros will scan that color field for delimiters such as "+", ",", "/" . If a delimiter is found the color will be divided and assigned to the two "Color" and "Color2" fields.

Iris_Temp field

The "Iris_Temp" field is not imported. The value "Iris_Temp" field is determined by the presence of a iris indication in the "Accessories" field and/or a non blank "Template" field.

Changes to the Plot

There are changes to the paperwork that will cause a need to change the graphic images on the plot. Changes to the displayed text fields are made automatically, but changes to the graphics may or may not be made. In all cases, whether the change is made or not, symbols that have, or should have, a graphic change are circled in red for you to check. See below for discriptions of the various things that AutoPlotVW will change and flag for you.

"Import Data to Plot"
(use with LW4 and other databases)

This macro will import values from a tab delimited text file. The fields must be in the same order as the fields exported by the "Export Data to Paperwork" macro; that order is listed, again, below

1. Unit #
2. Position
3. Short Purp
4. Color (combined with Color2)
    (If there is a delimiter separating two or more colors, this macros will split the colors into the two color fields)
5. Type
6. Accessories
7. Wattage
8. Channel
9. Purpose
10. Circuit
11. Circuit Name
12. Dimmer
13. Template
14. Miscl#1
15. Miscl#2
16. Miscl#3
17. Miscl#4
18. Miscl#5
19. Miscl#6
20. Miscl#7
21. Miscl#8
22. Miscl#9
23. Miscl#10
24. Mark
25. System
26. Device Type
27. Needed for Focus
28. Instrument Type Note
29. Focus Note
30. Focus Status
31. PaperWork ID
32. Symbol Name
33. Plot Link

IMPORTANT NOTE ABOUT EXPORTING AND IMPORTING AND

USING "MERGE" IN LIGHTWRIGHT 4.

1. Follow along with the following steps:

2. Export from VectorWorks using an AutoPlotVW(APVW) command to Lightwright (LW)

3. Read Data into LW using either File/Import Data or an automated action.

4. Make changes in LW

5. Export back to APVW, but DO NOT include any attributes or other worksheet rows that do not represent physical objects you want drawn by SL. (See the LW manual for some ways to do this.)

6. Read Data into VectorWorks using an APVW command.
    Changes are made; Lights are added and deleted.

7. Delete one or more lights in APVW.

8. Export from VectorWorks using an APVW command to Lightwright (LW)

9. Using the automated action "Merge from AutoPlotVW" or your own "File/Merge" command, read data back into LW.
    This is where the danger lies. LW will not automatically delete any fixtures that are not in the incoming file. This is because there can be worksheet rows (such as attributes) that are not drawn on the plot, and because you are using File/Merge instead of File/Import.

When using the "Merge" function (automated or otherwise) in all versions of LW you must manually delete in Lightwright those fixtures that were deleted from the plot.

Feel free to call me if you find this too confusing.

"Enhanced Import Functionality"

Ignoring Some Incoming Records (e.g., Moving Light channels)

LightWright 4 and some custom database implementations can be instructed not to export certain records that represent data that is not shown on the plot. However, LightWright 3 and most custom applications developed in Excel, Filemaker, and other databases export every line (record) in the database unless you pre-select those records you want to export. Instead of requiring the user to preselect the records to export, all that is required is that a minus "-" sign be placed in the "Mark" field. Any record that has a minus sign in the "Mark" field will be ignored. Once the minus sign has been placed in a record, you need do nothing else to that record (row) no matter how many times you go back and forth between the paperwork and the plot.

The LW4 automated action that came with the AutoPlot download have the "For lights with attributes, export only the first row" button selected. This means that attributes for any given fixture that occupy a LW4 row will not be exported; however, the AutoPlotVW import commands will still check for the minus sign. The provided automated action does _**not**_ have the "Only items with instrument type marked 'On Light Plot'" selected. This is so you can add lights to the paperwork and not have to remember to check this field.

Automatically Adding Lights:

Any record that comes in with a PlotLink field that is empty or equals "0" will be identified as a fixture that is not on the plot. The macro will then attempt to determine the location of that new fixture based on the Unit # and Position fields. The macro will attempt to choose a symbol that matches the "Symbol Name" field description. If the macro cannot find a matching symbol name, it will search the symbol names in the drawing for a name that either contains the value of the "Type" field or is itself contained in the "Type" field. If the macro still cannot find a symbol name, it will then place a generic box at the determined position and display the displayable fields and unit type. The generic boxes can then be changed to the appropriate symbols using the "Replace Symbol" macro. For the macro to perform this part of the macro properly, it is required that you have a symbol called **"Generic Unit"** in your symbol list; such a symbol exists in the "APVW Symbols" file. If no "Generic Unit" symbol exists in your drawing, the import macro will make one and insert it into the top level of your resources. When a "Generic Unit" symbol is placed it will usually be because you have misspelled the Type of fixture, *e.g.* you may have typed   ' 6" Fres' instead of ' 6" Fresnel' or vice versa. Just use the "Replace Selected Symbols" macro to replace the generic unit symbol with the one you want.
A red circle will be placed around any lights that are added by this macro, so that you can decide if you really meant to do that. There is another macro that will automatically delete all the red circles with one command if you wish.
When using Lightwright or another external progarm to generate paperwork, be sure to place a minus,"-", sign in the "Mark" field of any record that does not represent a fixture to be drawn; otherwise, the AutoPlotVW import macro will try to place a light for every entry in the paperwork that has no "PlotLink" and is not marked with a minus sign. You can imagine what a 25 channel cyberlight could do to your plot.

Automatically Adding Template and Iris symbols:

The Ellipsoidal units in the "APVW Symbols" file all have a text field in the barrel of the unit that is linked to the "Iris_Temp" field. If you put a capital "O" in the "Iris_Temp" field it will show up as an iris for that unit. If you put in a capital "T" then it will appear in the barrel indicating a template is in that fixture. The "Import Data to Plot" macro will look at each incoming fixtures "Accessories" field, and if it has the word "Iris" anywhere in the field, it will automatically place a "O" in the Iris_Temp field; Case does not matter; iris may be any of the following, IRIS, iris, Iris, anywhere in the " Accessories" field. The macros will also look to see if there is any value in each fixtures "Template" field. If there is a value in that field, the macro will automatically put a "T" in the Iris_Temp field. When you first use the " Import Data to Plot" macro, you will be asked if you wish to use the "Iris_Temp" field as an Iris/Template indicator; if you answer "NO" then the above action will not take place. If you wish to include this functionality in your own symbols, you must place a text field in the barrel of the fixture graphic and link that text field to the "Iris_Temp" field of the "Fixture Data 2" record.

Automatically Adding Accessories and Devices:

Devices are those items in the paperwork that would require a channel assignment but are not lights. These could be gobo rotators, color scrollers, even foggers. Most devices are associated with lights and are given the same number and position description. This is true for rotators and scrollers, obviously not for foggers. If a device has the same Unit# and Position description as a light, and a symbol representing the device exists, the macro will place the symbol of the device above the fixture on the screen.

Accessories are those items that might be represented on the plot but do not receive a channel assignment. Typically these are things like barndoors, tophats, etc. If an accessory has a separate entry in the paperwork, and a symbol for the accessory exists, the macro will attempt to place it just as it does devices. If the an accessory is indicated in the "Accessories" field that wasn't there on export, a red circle will be placed around the fixture so that you can I dentify the fixture and add the graphic if you desire. There is another macro that will automatically delete all the red circles with one command if you wish.

Automatically Changing the Type of a Fixture:

If the Type field value that comes from the paperwork is different from the value as listed in the plot, the macro will attempt to choose a symbol that matches the "Symbol Name" field description and replace the one on the plot. If the macro cannot find a matching symbol name, it will search the symbol names in the drawing for a name that either contains the value of the "Type" field or is itself contained in the "Type" field. If the macro still cannot find a symbol name, it will then place a generic box at the determined position and display the displayable fields and unit type. The generic boxes can then be changed to the appropriate symbols using the "Replace Symbol" macro. For the macro to perform this part of the macro properly, it is required that you have a symbol called **"Generic Unit"** in your symbol list; such a symbol exists in the "APVW Symbols" file. If no "Generic Unit" symbol exists in your drawing, the import macro will make one and insert it into the top level of your resources. When a "Generic Unit" symbol is placed it will usually be because you have misspelled the Type of fixture, *e.g.* you may have typed   ' 6" Fres' instead of ' 6" Fresnel' or vice versa. Just use the "Replace Selected Symbols" macro to replace the generic unit symbol with the one you want.
A red circle will be placed around any lights that are added by this macro, so that you can decide if you really meant to do that. There is another macro that will automatically delete all the red circles with one command if you wish.

Automatically Deleting Lights:

After importing your data, this macro will look at all the symbols to see if any symbols did not receive an incoming record, i.e., were deleted from the paperwork. If it finds symbols that were not in the paperwork, it will place a big X through them. It put up an alert that tells you some symbols were deleted from the paperwork and gives you the option to delete all of them or leave them plot with X over them that you can delete yourself.
Any record that contains minus, "-", anywhere in the "Mark" field will not be imported.

RED Circles, and Xs

When a change in the paperwork results in a change on the plot that does not involve a text field. Either a red circle or X will be placed over the fixture(s) involved. All of these red indicators are placed on their own layer and given the color Red.

Red Circles indicate that the fixture graphic was changed or needs to be changed to reflect a change in the incoming data

Red Xs indicate that the unit below the X was not in the incoming fixture list and was probably deleted in the paperwork.

There are macros that will automatically delete each of the Red indicators and the Red indicators are put on a separate layer with the show/snap/modify others layer option switched on.

"Import Manually"

Sometimes you will want to change how the incoming data is assigned to the data fields of each fixture, or you will want to import data from a file that does not have the correct plot link Ids or may not have all the data expected, or the data in the expected order.   You may even desire to only import part of the data of the incoming file. Use this macro to do the job. <u>This macro does not have any of the error checking or the ability to add or delete lights that is contained in the other import macros.</u> This macro can save a lot of work when you need to resurect data from an old drawing or you need to get data from a data list that did not originate with the drawing.

Exchanging Data with LightWright 4 and Other Programs.

Exchanging data with other programs is essentially the same process for all:

1. Use "Export Data with Labels" AutoPlotVW macros to create a tab delimited text file of the data contained in the drawing.

2. Open a document in the program you wish to use and import the the tab delimited text file.

3. Enter and manipulate data

4. Export the data from the program as a tab delimited file with the data in the same order as the data listed in the descriptions of the import and export macros.

5. Open the VectorWorks drawing and use the Import data to Plot macro to import the tab delimited file created by the database program. Voila !

Two things are very important in this process. First, the program reading the tab delimited file created by AutoPlot must recognize the order in which the fields have been written. Second, the program that is creating the tab delimited file for the AutoPlot drawing to read must write the fields to the file in the correct order, which is the same as the order of export of those fields.

Lightwright 4:
Included with the AutoPlotVW VectorWorks files are 3 automated actions for Lightwright 4; they are contained in the folder called "Lightwright 4 Stuff." In the "Lightwright 4 Stuff" folder there are three files, "Export to AutoPlotVW," "Import Data from AutoPlotVW," and "Merge From AutoPlotVW." Put these files in the "#Automated Actions" folder in the Lightwright 4 folder.

PASSING INFORMATION BACK AND FORTH BETWEEN THE VECTORWORKS PLOT AND THE PAPERWORK (Lightwright 4, or other database program)
STEP BY STEP

THE STEPS OF THE PROCESS

1. **To Send data to the paperwork program,** in the VectorWorks drawing, run the macro called "`Export Data to Paperwork".or "Export Data w Labels"

   a. This macro writes a tab delimited file called "AutoPlot Export" to be read by Lightwright 3, the "Paperwork+" Panorama file or any other program you wish to use.

2. To Import Drawing information to the paperwork program:

   a. **Using the Lightwright 3 or 4**, use to the "File" / "Automated" / "Import Data from AutoPlotVW." Menu command, find and select the "AutoPlot Export" file in the file dialog box and open it

   b. **Using Another Paperwork program**, Use the Open or Import command, whichever is appropriate and find the "AutoPlot Export" file in the file dialog box and open it

3. Play with your paperwork any way you want keeping in mind the following things.

   a. **Lightwright users**. DO NOT CHANGE any info in the "External ID" field. Actually LW won't let you, but I thought I would stay consistant with the Panorama instructions

   b. **Other database users**. DO NOT CHANGE any info in the "PlotLink" field.

4. To send changes back to the VectorWorks drawing:

   a. **Using the Lightwright 3 or 4**, use to the "File" / "Automated" / "Export to AutoPlotVW" menu.

   b. **Using Another Paperwork program**, Use the Export or Save As command, whichever is appropriate and save to a location and with a name you can remember.

5. **To Import the paperwork changes back into the drawing:**
   Open or go to the VectorWorks Plot and run the "AutoPlot" / "Export" / "Import Data to Plot" menu command. This macro will run the file selection dialog box. Be sure to select the file that you saved from the paperwork program.

6. **Repeating the process:**
   You can go back and forth as many times as you wish.
   LightWright 3 or 4 users, you should use the "File" / "Automated" / "Merge from AutoPlotVW" command after the first time you import data to a file, **not** the the "File" / "Automated" / "Import from AutoPlotVW" command